

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A method for the return of blood from a blood treatment apparatus that includes a blood treatment element configured for hemodiafiltration, a first line and a second line each having an outlet, a blood pump, a first valve arranged in the first line, a second valve arranged in the second line, and a predilution port configured to feed a substitute fluid, with a substitute supply line connected to the predilution port and to a substitute pump, the method comprising the steps of:

opening the first valve in the first line and closing the second valve in the second line;

configuring the blood pump for feedthrough operation or pressure control operation and operating the substitute pump to displace the blood with transported substitute fluid in a volume-controlled manner until the displaced blood has reached the first line outlet;

discontinuing operation of the blood pump, closing the first valve, and opening the second valve; and

operating the substitute pump to displace the blood through the second line and the blood treatment element with transported

substitute fluid in a volume-controlled manner until the displaced blood has reached the second line outlet.

2. (Currently amended) A method for the return of blood from a blood treatment apparatus that includes a blood treatment element configured for hemodiafiltration, a first line and a second line each having an outlet, a blood pump, a first valve arranged in the first line, a second valve arranged in the second line, and a postdilution port configured to feed a substitute fluid, with a substitute supply line connected to the postdilution port and to a substitute pump, the method comprising the steps of:

opening the first valve in the first line and closing the second valve in the second line;

configuring the blood pump for feedthrough operation or pressure control operation and operating the substitute pump to displace the blood through the blood treatment element and the first line with transported substitute fluid in a volume-controlled manner until the displaced blood has reached the first line outlet;

discontinuing operation of the blood pump, closing the first valve, and opening the second valve; and

operating the substitute pump to displace the blood through the second line with transported substitute fluid in a volume-controlled manner until the displaced blood has reached the second line outlet.

3. (Previously presented) The method in accordance with claim 1, wherein the step of pumping the substitute fluid includes using a membrane pump.

4. (Currently amended) The method in accordance with claim 1, wherein the blood treatment element is a dialyzer in the hemodiafiltration.

5. (Currently amended) The method in accordance with claim 1, wherein the blood treatment element is a hemofilter in the hemodiafiltration.

6. (Previously presented) The method in accordance with claim 1, further comprising a step of detecting the flow of the transported substitute fluid.

7. (Previously presented) The method in accordance with claim 6, wherein the step of detecting uses optical detectors.

8. (Previously presented) The method in accordance with claim 1, wherein the step of displacing the blood from the blood pump with the substitute fluid includes displacing substantially all of the blood therefrom.

9. (Currently amended) An apparatus for carrying out a method in accordance with claim 1, comprising a blood treatment element configured for hemodiafiltration, a blood pump, a substituate fluid pump, a first line as an arterial blood line, a second line as a venous blood line, valves that control flow in the first and second lines, and a control apparatus.

10. (Currently amended) The apparatus in accordance with claim 10 9, further comprising detectors arranged in the lines that detect the flow of the substituate fluid.

11. (Previously presented) The apparatus in accordance with claim 9, wherein each of the pumps is configured as double pumps connected in parallel.

12. (Previously presented) The method according to claim 1, wherein the predilution port is located downstream of the blood pump and upstream of the blood treatment element.

13. (Previously presented) The method according to claim 2, wherein the postdilution port is located downstream of the blood treatment element and upstream of the second valve.

14. (Previously presented) The method according to claim 1, wherein the first line and the second line are used both as

conduits for transport of blood during operation of the blood treatment element and as conduits for the return of the displaced blood from the blood treatment apparatus.

15. (Previously presented) The method according to claim 2, wherein the first line and the second line are used both as conduits for transport of blood during operation of the blood treatment element and as conduits for the return of the displaced blood from the blood treatment apparatus.

16. (Previously presented) The apparatus according to claim 10, wherein the detectors are optical detectors.

17. (Currently amended) A method of removing blood from a blood treatment apparatus that includes a blood treatment element configured for hemodiafiltration, a first line and a second line each having an outlet, a blood pump, a first valve disposed in the first line, a second valve disposed in the second line, a substitute pump that feeds a substitute fluid, a predilution port and a postdilution port each configured to distribute the substitute fluid, and a substitute supply line that is connectable to the predilution port and to the postdilution port, the method comprising the steps of:

in a predilution mode, opening the first valve in the first line and closing the second valve in the second line;

configuring the blood pump for feedthrough operation or pressure control operation and operating the substitute pump to feed the substitute fluid through the predilution port to displace the blood with transported substitute fluid in a volume-controlled manner until the displaced blood has reached the first line outlet;

discontinuing operation of the blood pump, closing the first valve, and opening the second valve; and

operating the substitute pump to displace the blood through the second line and the blood treatment element with transported substitute fluid in a volume-controlled manner until the displaced blood has reached the second line outlet; and

in a postdilution mode, opening the first valve in the first line and closing the second valve in the second line;

configuring the blood pump for feedthrough operation or pressure control operation and operating the substitute pump to feed the substitute fluid through the postdilution port to displace the blood through the blood treatment element and the first line with transported substitute fluid in a volume-controlled manner until the displaced blood has reached the first line outlet;

discontinuing operation of the blood pump, closing the first valve, and opening the second valve; and

operating the substitute pump to displace the blood through the second line with transported substitute fluid in a volume-

controlled manner until the displaced blood has reached the second line outlet.

18. (Previously presented) The method according to claim 17, wherein the step of displacing the blood with transported substitute fluid in a volume-controlled manner includes using a membrane substitute pump.

19. (Previously presented) The method according to claim 17, wherein the step of displacing the blood with transported substitute fluid in a volume-controlled manner includes detecting the flow of the transported substitute fluid with an optical detector.

20. (Previously presented) The method according to claim 17, wherein the predilution port is located downstream of the blood pump.

21. (New) An apparatus for carrying out a method in accordance with claim 2, comprising a blood treatment element configured for hemodiafiltration, a blood pump, a substitute fluid pump, a first line as an arterial blood line, a second line as a venous blood line, valves that control flow in the first and second lines, and a control apparatus.